

## IN THE CLAIMS:

The following listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Currently Amended) A graphics system comprising:

~~a graphics processor configured to render an image comprising a plurality of regions, and to generate a plurality of samples that are rendered with a variable density of samples per pixel, wherein the density varies by region;~~

a graphics processor configured to render a plurality of samples for an image, wherein said image is subdivided into a plurality of regions, and wherein a density of samples per pixel for at least one of the plurality of regions is different from a density of samples per pixel for at least one other of the plurality of regions;

a sample buffer coupled to said graphics processor for storing the plurality of samples; and

a sample-to-pixel calculation unit coupled to said sample buffer, wherein said sample-to-pixel calculation unit is configured to ~~select~~ filter samples from the sample buffer ~~and filter said samples~~ to form output pixels.

2. (Currently Amended) The graphics system as recited in claim 1, wherein said graphics processor is further configured to vary the density of the samples generated within at least a particular region one of the plurality of regions on a basis selected from the group consisting of: a per-scan line basis, a per-group-of-scan-lines basis, a per-pixel basis, and a per-group-of-pixels basis.

3. (Currently Amended) The graphics system as recited in claim 1, wherein said density of samples per pixel for at least one of the plurality of regions is ~~varied according to~~ based on one or more of the following: input from an eye-tracking device, input from a head-tracking device, input from a hand-tracking device, input from

a mouse, a cursor position, a visible object position, and a main character position.

4. (Currently Amended) The graphics system as recited in claim 1, wherein said density of samples per pixel for at least one of the plurality of regions is varied according to input from a gaze tracking device.
5. (Currently Amended) The graphics system as recited in claim 1, wherein said density for a particular region of samples per pixel for at least one of the plurality of regions is selected from a predetermined set of densities.
6. (Currently Amended) The graphics system as recited in claim 1, wherein said a density of samples per pixel is substantially continuously variable across one or more region boundaries.
7. (Original) The graphics system as recited in claim 1, wherein said sample-to-pixel calculation unit is configured to filter samples to form output pixels on a real time basis.
8. (Original) The graphics system as recited in claim 1, wherein said sample-to-pixel calculation unit is configured to filter samples to form output pixels on an on-the-fly basis.
9. (Original) The graphics system as recited in claim 1, wherein at least a part of each sample is double-buffered in said sample buffer.
10. (Previously Presented) The graphics system as recited in claim 1, further comprising a sample position memory coupled to said graphics processor, wherein said sample position memory is configured to store information usable to determine sample positions for each sample rendered for a particular pixel position.

11. (Original) The graphics system as recited in claim 1, further comprising a sample position memory coupled to said graphics processor, wherein said sample position memory is configured to store one or more sample position schemes, and wherein said graphics processor is configured to read sample positions from said sample position memory.
12. (Original) The graphics system as recited in claim 1, further comprising a sample position memory coupled to said graphics processor, wherein said sample position memory is configured to store one or more sample position schemes for one or more sample densities, wherein said graphics processor is configured to read sample positions from said sample position memory according to a selected sample density and a selected sample position scheme.
13. (Previously Presented) The graphics system as recited in claim 1, wherein said graphics processor is configured to store samples in said sample buffer according to bins, wherein each bin has a position, wherein each sample within a bin is assigned an offset relative to said bin positions, and wherein said bin positions correspond to pixel positions on a display device.
14. (Previously Presented) The graphics system as recited in claim 1, wherein said select samples comprises selecting a specified portion of the samples corresponding to each pixel.
15. (Previously Presented) The graphics system as recited in claim 14, wherein the specified portion varies by region.
16. - 23. (Canceled)
24. (Currently Amended): A method for producing output pixels for a graphics system, the method comprising:  
generating a plurality of samples ~~in a super-sampled manner~~, wherein at least a

portion of the plurality of samples are rendered with a ~~variable~~ density of samples per pixel that varies by region, and wherein a plurality of regions comprise an image;

storing the plurality of samples, wherein the stored plurality of samples correspond to the image; and

selecting and filtering at least a portion of the stored plurality of samples to form output pixels, wherein the output pixels correspond to frame of the display.

25. (Original) The method of claim 24, wherein said storing comprises storing the plurality of samples in a double buffered fashion.

26. (Currently Amended) A graphics system comprising:

a graphics processor configured to render an image comprising a plurality of regions, and to generate a plurality of samples that are rendered with a ~~variable~~ specified density of samples per pixel, wherein the specified density varies by region;

a sample buffer coupled to said graphics processor for storing the plurality of samples, wherein the samples are stored in bins, and wherein bin size varies by region based on the density of samples per pixel for each region;

and

a sample-to-pixel calculation unit coupled to said sample buffer, wherein said sample-to-pixel calculation unit is configured to select samples from the sample buffer and filter said samples to form output pixels.

27. (Previously Presented) The graphics system of claim 26, wherein said select samples comprises selecting a specified portion of the samples in each bin.

28. (Previously Presented) The graphics system of claim 27, wherein the specified portion varies by region.

29. (Previously Presented) The graphics system of claim 27, wherein the specified portion for each region is determined by input from a tracking device.

30-32. (Canceled)

33. (New) A graphics system comprising:

a graphics processor configured to render a plurality of samples for an image;  
wherein said image is subdivided into a plurality of regions; and  
wherein a density of samples per pixel for at least one of the plurality of regions is different from a density of samples per pixel for at least one other of the plurality of regions.